

PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE INSTALLATION OF A NEW TRAFFIC CONTROL SIGNAL, WITH INTERSECTION LIGHTING AND INTERCONNECT AT THE INTERSECTION OF JOHNS HOPKINS ROAD AND SPUR 1/SPUR4 RAMP IN HOWARD COUNTY. JOHNS HOPKINS ROAD RUNS IN AN EAST/WEST DIRECTION.

INTERSECTION OPERATION

A SYSTEM READY LOCAL AND RACK MOUNTED DETECTOR AMPLIFIERS ALL HOUSED IN A BASE MOUNTED CABINET ARE TO BE INSTALLED AT THIS LOCATION. THE INTERSECTION IS TO OPERATE IN A NEMA FOUR (4) PHASE MODE. AN EXCLUSIVE/PERMISSIVE LEFT TURN WILL BE PROVIDED FOR THE WESTBOUND MOVEMENT OF JOHNS HOPKINS ROAD. THE JOHNS HOPKINS THROUGH MOVEMENTS WILL OPERATE CONCURRENTLY ALONG WITH A CONCURRENT PEDESTRIAN MOVEMENT ACROSS THE NORTH LEG OF JOHNS HOPKINS ROAD. THE SIDE STREET MOVEMENT WILL OPERATE ALONE.

PROJECT CONTACTS:

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MR. JOHN CONCANNON, ASSISTANT DISTRICT ENGINEER - TRAFFIC  
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MR. LEON KERNS, ASSISTANT DISTRICT ENGINEER- MAINTENANCE  
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MR. RICHARD L. DAFF, SR. CHIEF TRAFFIC OPERATIONS DIVISION  
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EQUIPMENT LIST

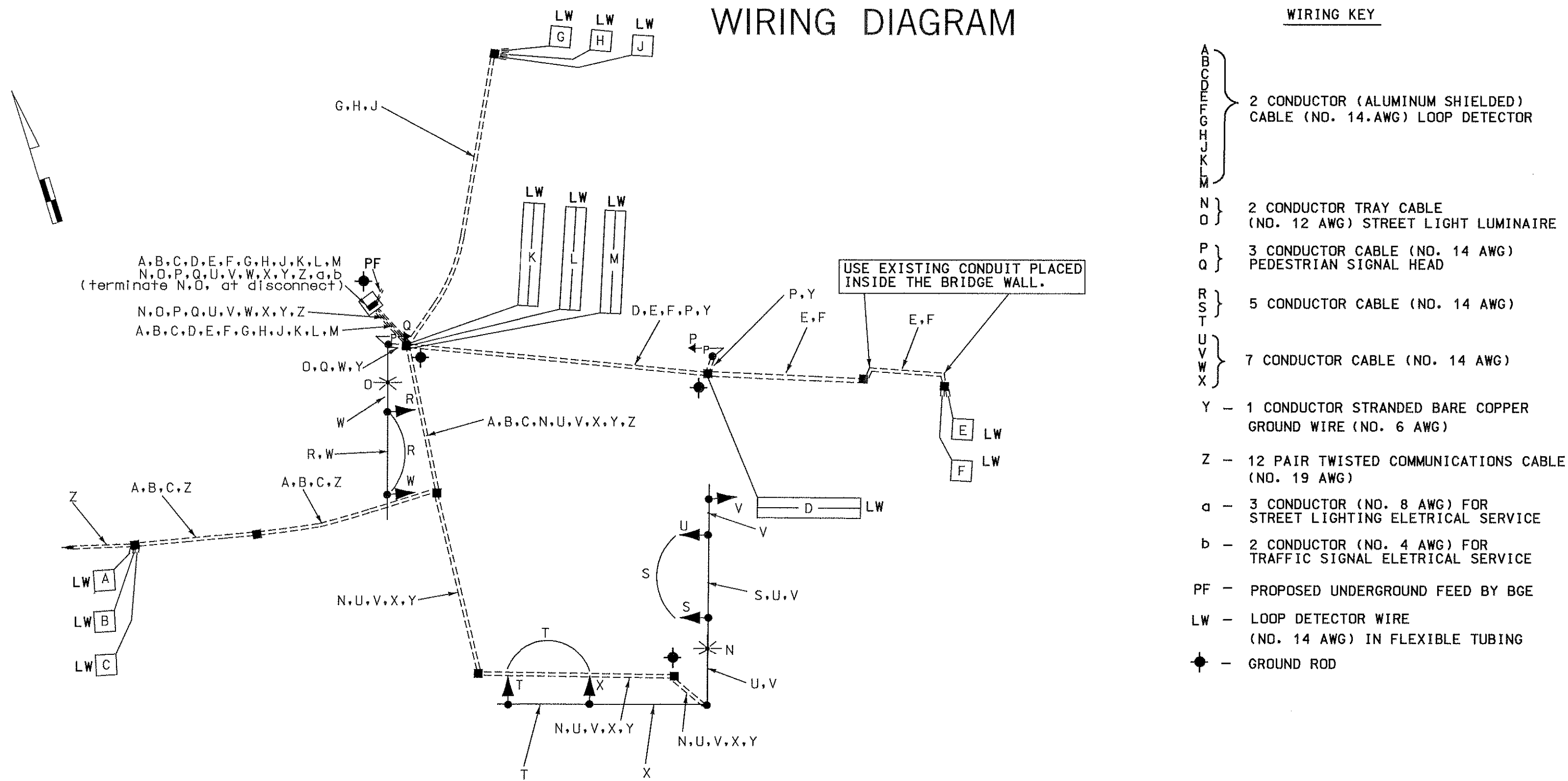
A. EQUIPMENT TO BE FURNISHED BY THE ADMINISTRATION.

CATEGORY NO.:	DESCRIPTION	SPECIFICATION SECTION	UNIT	QUANTITY
900000	CONTROLLER, ASC II WITH TELEMETRY IN SIZE 6 CABINET AND RACK MOUNTED DETECTOR AMPLIFIERS	816	EA	1
900000	SHEET ALUMINUM SIGNS	813	SF	86.33
	VAR. x 32" D3-2 SIGN MAST ARM MOUNTING		EA	1
	36"x 42" R10-12 SIGN - MAST ARM MOUNTING		EA	1
	30" X 36" R3-5(L) SIGN - MAST ARM MOUNTING		EA	2
	30" X 36" R3-6(MOD) MAST ARM MOUNTING		EA	1
	48" X 48" W3-3 - GROUND MOUNT		EA	2

B. EQUIPMENT TO BE FURNISHED AND /OR INSTALLED BY THE CONTRACTOR.

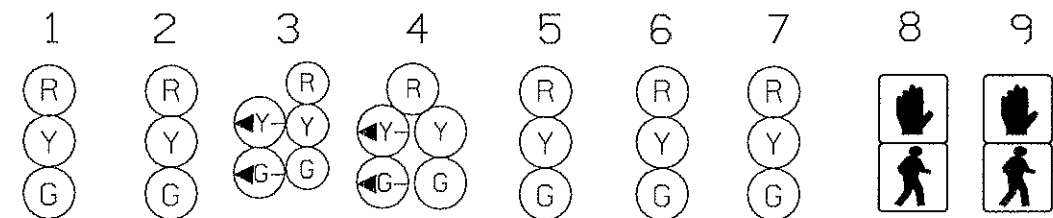
CATEGORY NO.:	DESCRIPTION	SPECIFICATION SECTION	UNIT	QUANTITY
585414	FURNISH & INSTALL 12 INCH WHITE THERMOPLASTIC PAVEMENT MARKING TAPE-(FOR CROSSWALK)	555	LF	150
585416	FURNISH & INSTALL 24 INCH WHITE THERMOPLASTIC PAVEMENT MARKING TAPE - (FOR STOP LINE)	555	LF	120
801004	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION	801	CY	9
871202	INSTALL CONTROLLER AND CABINET-BASE MOUNTED	816	EA	1
862102	FURNISH & INSTALL SAWCUT FOR SIGNAL LOOP DETECTORS	815	LF	930
805160	FURNISH & INSTALL 1 INCH LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DET	805	LF	65
800000	FURNISH AND INSTALL 2 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	805	LF	660
800000	FURNISH AND INSTALL 3 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	805	LF	180
800000	FURNISH AND INSTALL 4 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	805	LF	140
811001	FURNISH AND INSTALL ELECTRICAL HANDHOLE	811	EA	11
837001	FURNISH AND INSTALL GROUND ROD-3/4 INCH DIAMETER X 10 FOOT LENGTH	804	EA	4
822002	FURNISH AND INSTALL 12-PAIR COMMUNICATION CABLE, JELLYFILLED (UNDERGROUND)	810	LF	400
862101	FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 AWG)	810	LF	3200
861104	FURNISH AND INSTALL ELECTRICAL CABLE- 2 CONDUCTOR (ALUMINUM SHIELDED)	810	LF	2700
861106	FURNISH AND INSTALL ELECTRICAL CABLE- 3 CONDUCTOR (NO. 14 AWG)	810	LF	180
861107	FURNISH AND INSTALL ELECTRICAL CABLE- 5 CONDUCTOR (NO. 14 AWG)	810	LF	75
861108	FURNISH AND INSTALL ELECTRICAL CABLE- 7 CONDUCTOR (NO. 14 AWG)	810	LF	1105
811117	FURNISH AND INSTALL ELECTRICAL CABLE- 3 WIRE (NO. 4 AWG - THHN/THWN)	810	LF	50
861116	FURNISH AND INSTALL ELECTRICAL TRAY CABLE- 2 CONDUCTOR (NO. 12 AWG)	810	LF	320
800000	FURNISH AND INSTALL MAST ARM POLE AND TWIN 50 FT/60FT MAST ARMS (FOUR - 2" x 90° ANCHOR BOLTS)	SP	EA	1
802501	FURNISH AND INSTALL NO. 6 AWG STRANDED BARE COPPER GROUND WIRE	804	LF	310
813015	INSTALL OVERHEAD SIGN - MAST ARM MOUNTED	813	SF	54.33
831010	FURNISH AND INSTALL 250 WATT H.P.S. LAMP AND LUMINAIRE WITH PHOTOCCELL	806	EA	2
866104	FURNISH AND INSTALL LIGHTING BRACKET ARM FOR SIGNAL POLE 20 FT.	806	EA	2
807205	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT (120/240V, 1 PHASE)	807	EA	1
800000	FURNISH AND INSTALL MAST ARM POLE AND 50FT MAST ARM (FOUR - 1 3/4" x 90° ANCHOR BOLTS)	SP	EA	1
		SP	EA	4
801106	FURNISH AND INSTALL WOOD SIGN SUPPORT 4" x 6"	812	LF	68
800000	FURNISH AND INSTALL 12" ONE-WAY, ONE SECTION PEDESTRAIN SIGNAL HEADS	814	EA	4
800000	FURNISH AND INSTALL 8" ONE-WAY, ONE SECTION 8" SIGNAL HEADS	814	EA	3
800000	FURNISH AND INSTALL 12" ONE-WAY, ONE SECTION SIGNAL HEADS	814	EA	22
868003	FURNISH AND INSTALL 10FT. BREAKAWAY PEDESTAL POLE AND BASE	SP	EA	1
813014	INSTALL GROUND MOUNTED SIGN	813	SF	32

WIRING DIAGRAM



WIRING KEY	
A, B, C, D, E, F, G, H, J, K, L, M, N, O, P, Q, U, V, W, X, Y, Z, G, D	2 CONDUCTOR (ALUMINUM SHIELDED) CABLE (NO. 14 AWG) LOOP DETECTOR
N, O	2 CONDUCTOR TRAY CABLE (NO. 12 AWG) STREET LIGHT LUMINAIRE
P, Q	3 CONDUCTOR CABLE (NO. 14 AWG) PEDESTRIAN SIGNAL HEAD
R, S, T	5 CONDUCTOR CABLE (NO. 14 AWG)
U, V, W, X	7 CONDUCTOR CABLE (NO. 14 AWG)
Y	1 CONDUCTOR STRANDED BARE COPPER GROUND WIRE (NO. 6 AWG)
Z	12 PAIR TWISTED COMMUNICATIONS CABLE (NO. 19 AWG)
a	3 CONDUCTOR (NO. 8 AWG) FOR STREET LIGHTING ELECTRICAL SERVICE
b	2 CONDUCTOR (NO. 4 AWG) FOR TRAFFIC SIGNAL ELECTRICAL SERVICE
PF	PROPOSED UNDERGROUND FEED BY BGE
LW	LOOP DETECTOR WIRE (NO. 14 AWG) IN FLEXIBLE TUBING
◆	GROUND ROD

PHASE SEQUENCE CHART



PHASE 2 AND 5	R	R	G	G	G	R	R	DW	DW	
5 CHANGE	R	R	G	G	G	R	R	DW	DW	
PHASE 2 AND 6	G	G	G	G	G	R	R	WK	WK	
PED CLEARANCE	G	G	G	G	G	R	R	FL/DW	FL/DW	
2 AND 6 CHANGE	Y	Y	Y	Y	Y	R	R	DW	DW	
PHASE 4	R	R	R	R	R	G	G	DW	DW	
4 CHANGE	R	R	R	R	R	Y	Y	DW	DW	
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	DARK	DARK	

4 ADDENDUM NO.4 09/7/00

**SABRA, WANG & ASSOCIATES, INC.**  
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**MARYLAND DOT - STATE HIGHWAY ADMINISTRATION**  
*Office of Traffic & Safety*  
**TRAFFIC ENGINEERING DESIGN DIVISION**

GENERAL INFORMATION

**JOHNS HOPKINS ROAD AND SPUR 1/SPUR 4**

DRAWN BY: J. ALLEN Jr.	F.A.P. NO.	GI NO.	SHEET NO.
CHECKED BY: S. RENZI	S.H.A. NO.	3913	
SCALE: NONE	COUNTY: HOWARD	T.I.M.S. NO.	
DATE: MAY, 2000	LOG MILE:	C-827	275 OF 320

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